UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,702	12/28/2001	David M. Lee	42390.P13768	2187

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EXAMINER
SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
2664	8

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/27/03*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *7*.

4)☐ Interview Summary (PTO-413) Paper No(s). _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-4 and 7-10 rejected under 35 U.S.C. 102(e) as being anticipated by Sabaa et al.

(U.S. Patent No. 6,389,016).

Referring to claim 1, Sabba discloses in column 2, lines 47 to column 25, figure 1, claim

1 and respective portions of the specification of a method of transporting data between a sending

entity and a receiving entity over a data communication system, comprising as disclosed in claim

1 of: receiving a completion packet at a receiving device (receiving each packet transmitted over

the data communication system); determining whether the completion packet is expected by the

receiving device (reading a group number identifying a group and a sequence number of the

received packet and comparing the sequence number with an expected sequence number of the

group); and discarding the completion packet if the completion packet is not expected

(discarding the received packet when the sequence number of the received packet does not match

the expected sequence number) as claim.

Referring to claim 2, Sabaa discloses in figure 7 and respective portion of the

specification, where the receiver detects an out-of-sequence error as the sequence number of the

received packet does not match the expected number 8 of group 0. The receiver 72 sends a

negative acknowledgment to the sender 70, specifying the expected sequence number. Once the

sender 70 receives the negative acknowledgement 104, it knows at that point that all sequence

numbers up to 7 have been correctly received and it retransmits the packet 100 with sequence

number 8, immediately followed by all of the next and higher-numbered packets in the group.

Thus, in the event of an out-of-sequence error, the entire group is not resent, only the packets

starting at the lost sequence number are retransmitted, thus enabling the receiving entity to

determine whether the packet corresponds to any outstanding requests (expected) previously

issued by the receiving device as claim.

Referring to claim 3, Sabaa discloses in claim 1 and respective portion of the

specification of the method of claim 2, further comprising reporting an error condition by means

of sending a negative acknowledgement when the sequence number of the received packet is

greater than the expected sequence number and the negative acknowledgment sent indicator has

not been set as claim.

Referring to claim 4, Sabba discloses in column 2, lines 47 to column 25 and figure 1, 2,

claim 1 and respective portions of the specification of a method of transporting data between a

sending entity and a receiving entity over a data communication system, comprising as disclosed

in claim 1: receiving a completion packet at a receiving device (receiving each packet

transmitted over the data communication system); the completion packet including a completion

status and a completer identification (as disclosed in figure 2 and respective portion of the

specification); determining whether the completion packet includes a completion status other

than successful (reading a group number identifying a group and a sequence number of the

received packet and comparing the sequence number with an expected sequence number of the group); and storing the completer identification in a first register if the completion status is other than successful (setting a negative acknowledgement sent indicator 38 in figure 1, when the packet is discarded and no negative acknowledgement sent indicator has been set for the group, the negative acknowledgment sent indicator indicating that a negative acknowledgement has been sent and the receiving entity is waiting for a packet with the expected sequence number) as claim.

Referring to claim 7, Sabba discloses in column 2, lines 47 to column 25 and figure 1, 2, claim 1 and respective portions of the specification of a method of transporting data between a sending entity and a receiving entity over a data communication system, comprising as disclosed in claim 1: servicing a request packet from a requesting device at a completer device (receiving each packet transmitted over the data communication system), the request packet including a requestor identification and a tag (as disclosed in figure 2 and respective portion of the specification); transmitting a completion packet with a completion status other than successful from the completer device to the requesting device if an error condition exists (reading a group number identifying a group and a sequence number of the received packet and comparing the sequence number with an expected sequence number of the group); and storing the requestor identification at a location in the completer device if the error condition exists (setting a negative acknowledgement sent indicator 38 in figure 1, when the packet is discarded and no negative acknowledgement sent indicator has been set for the group, the negative acknowledgment sent indicator indicating that a negative acknowledgement has been sent and the receiving entity is waiting for a packet with the expected sequence number) as claim.

Referring to claim 8, Sabba discloses in figure 1, item 38 (Neg. Ack sent indicator) and 2

and in claim 1 of the method of claim 7, further comprising storing the tag at a location in the

completer device if the error condition exists as claim.

Referring to claim 9, Sabba discloses in figure 1, item 38 and in claim 1 of the method of

claim 8, further comprising indicating in a register (Neg. Ack sent indicator) in the completer

device that a completion packet with a completer status other than successful was transmitted if

the error condition exists as claim.

Referring to claim 10, Sabaa discloses in claim 1 and respective portions of the

specification of the method of claim 9, further comprising reporting the error condition if it exists

by means of sending a negative acknowledgement when the sequence number of the received

packet is greater than the expected sequence number and the negative acknowledgment sent

indicator has not been set as claim.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Sabaa in view

of Matsumoto et al. (U.S. Patent No. 5,414,717).

Referring to claim 5, Sabaa discloses in figure 1 and in claim 1 of storing the completer

identification in a first register if the completion status is other than successful (setting a negative

acknowledgement sent indicator 38 in figure 1, when the packet is discarded and no negative

acknowledgement sent indicator has been set for the group, the negative acknowledgment sent

indicator indicating that a negative acknowledgement has been sent and the receiving entity is

waiting for a packet with the expected sequence number). Sabaa however fails to further include

indicating in a second register that an unsuccessful completion was received if the completion

status is other that successful. Matsumoto teaches in the abstract of a NAK register, for storing

negative acknowledgment data. Matsumoto further discloses in claim 1 and respective portions

of the specification of including a NAK register which stores negative acknowledgment data

having higher priority than acknowledgment data, showing that a transmission from a

transmission side terminal. Therefore, it would have been obvious to incorporate the teachings

of Matsumoto into Sabaa's invention in order to control resending a transmission and reduce

overhead and latency.

Referring to claim 6, Sabaa discloses in claim 1 and respective portions of the

specification of the method of claim 5, further comprising reporting an error condition if the

completion status is other than successful by means of sending a negative acknowledgement

when the sequence number of the received packet is greater than the expected sequence number

and the negative acknowledgment sent indicator has not been set as claim.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

cgs

Ajit Patel
Primary Examiner